

AMENDMENTS TO THE SPECIFICATION:

Following the title on page one, please replace the "CROSS-REFERENCE TO RELATED APPLICATIONS" section with the following:

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority under 35 USC 119 to PCT Application No. PCT/US03/22533, filed July 18, 2003, entitled "FLUID FLOW MEASURING AND PROPORTIONAL FLUID FLOW CONTROL DEVICE," which claims priority from U.S. Provisional Application Serial Nos. 60/397,053, filed July 19, 2002, entitled "LIQUID FLOW CONTROLLER AND PRECISION DISPENSE APPARATUS AND SYSTEM" and 60/397,162, filed July 19, 2002, entitled "FLUID FLOW MEASURING AND PROPORTIONAL FLUID FLOW CONTROL DEVICE," the disclosures of which are hereby incorporated by reference. The present application relates to U.S. Patent Application No. 09/991,392, filed November 16, 2001, issued as U.S. Patent No. 6,527,862, entitled "FLOW CONTROLLER," which is a divisional application of U.S. Patent Application No. 09/488,146, filed January 20, 2000, issued as U.S. Patent No. 6,348,098, entitled "FLOW CONTROLLER," both of which claim priority from U.S. Provisional Application Serial Nos. 60/116,511, filed January 20, 1999, entitled "UNIVERSAL EXTERNAL STOP/SUCKBACK VALVE CONTROLLER," and 60/143,370, filed July 12, 1999, entitled "UNIVERSAL EXTERNAL STOP/SUCKBACK VALVE CONTROLLER," the disclosures of which are hereby incorporated by reference. The present application also relates to U.S. Patent Application No. 10/489,288, filed March 11, 2004, issued as U.S. Patent No. 7,249,628, entitled "APPARATUS FOR CONDITIONING THE TEMPERATURE OF A FLUID," which is a national stage entry of PCT Application No. PCT/US02/30494, filed September 26, 2002, entitled "APPARATUS FOR CONDITIONING THE TEMPERATURE OF A FLUID," which claims priority from U.S. Provisional Application Serial No. 60/326,357, filed October 1, 2001, entitled "CLOSED LOOP HEAT EXCHANGE APPARATUS," the disclosures of which are hereby incorporated by reference.

Please amend paragraph [0083] as follows:

**[0083]** A 2.25 inch inside diameter by 18 inch length shell and tube heat exchanger, prepared by the method disclosed in ~~co-pending application U.S. Ser. No. 60/326,357 filed Oct. 01, 2001 and entitled: CLOSED LOOP HEAT EXCHANGE APPARATUS and included here by reference,~~ the above-referenced U.S. Patent No. 7,249,628, was connected on its shell side to a source of water heated to 70 degrees Celsius flowing at a rate of 1.46 liters per minute. A source of water at 23 degrees Celsius was connected to an embodiment of the present invention at its inlet. The outlet of the valve in the present embodiment was connected to the inlet fitting of the tube side of the heat exchanger. Temperature of the water inlet to the tube side and the outlet of the tube side of the heat exchanger were measured by J-type thermocouples and data were logged using an Agilent data logger. The flow rate and timing of liquid water dispense cycles into the tubes of the heat exchanger was controlled by the flow device electronics and a laptop computer. The dispense cycle each minute was: water delivered to the tubes for 15 seconds at a flow rate of about 20 milliliters per second, water flow stopped for 45 seconds. A plot of the heat exchanger tube inlet water temperature, tube outlet water temperature and measured flow rate for a number of dispense cycles is shown in **FIG. 11**. The results show repeatable delivery of 300 milliliter volumes of liquid heated from 23 to  $67 \pm 0.9$  Celsius by this embodiment of the present invention with a heat exchanger. Such a system could be used for conditioning the temperature of fluids used in single wafer cleaning, electroless plating, developer or resist tripping processes.

Please amend paragraph [0085] as follows:

**[0085]** A 2.25 inch inside diameter by 8 inch length shell and tube heat exchanger, prepared by the method disclosed in ~~co-pending application U.S. Ser. No. 60/326,357 filed Oct. 01, 2001 and entitled: CLOSED LOOP HEAT EXCHANGE APPARATUS and included herein by reference,~~ the above-referenced U.S. Patent No. 7,249,628, was connected on its shell side to a source of water heated to 26.8 degrees Celsius flowing at a rate of 0.5 liters per minute. A source of water at 23.4 degrees Celsius was connected to an embodiment of the present

invention at its inlet. The outlet of the valve in the present embodiment was connected to the inlet fitting of the tube side of the heat exchanger. Temperature of the water inlet to the tube side and the outlet of the tube side of the heat exchanger were measured by J-type thermocouples and data was logged using an Agilent data logger. The flow rate and timing of liquid water dispense cycles into the tubes of the heat exchanger were controlled by the flow device electronics and a laptop computer. The dispense cycle each minute was: water delivered to the tubes for 5 seconds at a flow rate of about 20 milliliters per second, water flow stopped for 10 seconds. A plot of the heat exchanger tube inlet water temperature, tube outlet water temperature, and measured flow rate for a number of dispense cycles is shown in **FIG. 12**. The results show repeatable delivery of 100 milliliter volumes of liquid maintained at a temperature of  $26.035 \pm 0.095$  C using embodiment of the present invention with a heat exchanger. Such a combination could be used for accurately maintaining the temperature of a fluid such as a photoresist.